

USPTO Serial Number: 09/837,807

Clarke, Hernan J.

Response to Office Action dated September 15, 2005

REMARKS

The Office Action rejects claims 2-23 under 35 U.S.C. 103(a) as being unpatentable over Rush (6,119,102) in view of Hazama (6,539,399). Applicant has amended claims 2-23 to distinguish over the Rush and Hazama prior art references. Amended independent claim 2 is directed to a computer system for performing production scheduling. A data organizer receives work card data into the computer system. The data organizer parses the work card data into predetermined sets of data components according to processing requirements of a plurality of scheduling parameters. The data organizer compares the first set of the data components with a second set of the data components to identify a dependency between the first and second sets of the data components. The data organizer links the first and second sets of the data components in a linking relationship to form a third set of data components. The data organizer queries an external database for historical expected non-routine work card data associated with previously completed work. The data organizer injects the expected non-routine work card data into the third set of data components. A data storage device is coupled to an output of the data organizer. The data storage device stores sets of the data components which are received from the data organizer. A data processing application performs scheduling calculations upon the sets of the data components using the plurality of scheduling parameters. A communication channel is respectively coupled between the data storage device and the data processing application for routing the sets of the data components to the data processing application.

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Applicant respectfully suggests that Rush, either taken alone or in combination with Hazama neither teaches nor suggests a data organizer which, as part of the process of parsing through information in the system, queries an external database for historical non-routine work card data associated with previously completed work, and injects the expected non-routine work card data into an assembled "bucket" of information containing previously linked work card data for analysis. Neither Rush nor Hazama make mention of a set of historical non-routine work card data which is obtained from an external database of completed work tasks and injected into scheduling data to improve overall performance and accuracy. Rush teaches a manufacturing requirements planning (MRP) system which explicitly takes into account supply and demand factors to allocate production resources. Rush does not explicitly or implicitly teach or suggest an analysis of historical work data as part of its production scheduling function. Hazama teaches communications channels to route information as the Examiner has helpfully indicated.

In contrast, in the instant application the data organizer includes the additional functionality to inject expected non-routine work card data to the work cards of a work order, for example. Expected non-routine work card tasks are such that, while not part of a work order presently handled by the data organizer, have historically arisen in conjunction with a given work order or work card. In an example of how the data organizer accomplishes this functionality, the data organizer first queries an external database 106 for historical non-routines associated with a previously completed work order. Then, the average minutes of a non-routine task is computed for

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each non-routine work card associated with the work order. The work order then receives the expected non-routine work order from the external database.

The instant system provides advantages over that taught or suggested by Rush and the other prior art of record. A more accurate scheduling forecast can be obtained by injecting the aforementioned expected non-routine work tasks into the third set of data components. As such, the system takes into account all possible externalities which can affect production scheduling. By querying an external database which is populated with previously completed work, the system can determine the frequency with which non-routine tasks have occurred in an instant work schedule. This extra degree of intelligence lends to overall accuracy and optimization of the final schedule product.

Claim 2 is believed to patentably distinguish over the Rush and Hazama reference, taken singularly or in combination. Claims 3-11 are believed to be in condition for allowance as each is dependent from an allowable base claim.

Applicant has amended independent claim 12. Claim 12 is directed to a computer implemented method for performing production scheduling using work card data. A first set of data components, having been derived from the work card data, is organized according to processing requirements of a plurality of scheduling parameters. The first set of data components is compared with a second set of data components derived from the work card data to identify a dependency between the first and second set of data components. A production parameter from a work card data template is copied to the first set of data components. The first and second sets of data components are

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linked based on the dependency between the first and second sets of data components to form a third set of data components. An external database is queried for historical expected non-routine work card data associated with previously completed work. The expected non-routine work card data is injected into the third set of data components. The sets of data components are stored. Scenario-based forecasting calculations are performed upon the first and second sets of data components based on the plurality of scheduling parameters.

Again, neither Rush nor Hazama, taken singularly or in combination teach nor suggest the historical non-expected work data function as previously described (again, as part of an initial process of parsing though data in the system) where an external database is queried to identify expected historical non-routine work card data (again derived and representative of work cards in one embodiment). Neither Rush nor Hazama disclose the identification process which, based on past work performed, identifies the frequency and duration of the non-routine data as it applies in an instant situation. In addition, neither reference teaches nor discloses an automated process of injecting the non-routine work card data into an assembled bucket of information to improve overall optimization and accurately allocate resources such as man-hours.

Claim 12 is believed to patentably distinguish over the Rush and Hazama references, taken singularly or in combination. Claims 13-18 are believed to be in condition for allowance as each is dependent from an allowable base claim.

Applicant has amended independent claim 19. Claim 19 is directed to a computer implemented method for performing production scheduling. A work card data template is defined.

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First operational work card data is received and organized into a first data set. Work card identification data derived from the first data set is compared with the work card data template to identify a match between the work card data template and the first data set. A production parameter is copied from the work card data template to the first data set. The first data set is compared with a second data set representative of a second operational work card to identify a dependency between the first and second data sets. The first and second data sets are linked together in a linking relationship to form a third data set. A first descriptive parameter of the first data set is changed to match a second descriptive parameter of the work card data template in the event that the work card data template and the first data set do not match. An external database is queried for historical expected non-routine scheduling tasks associated with previously completed work. The expected non-routine scheduling tasks are injected to the third data set. The third data set is sorted into an available plurality of locations based on the operational status of the third data set. Finally, a scheduling function on the third data set is performed. The scheduling function is based upon an available plurality of scheduling parameters. The scheduling function includes an optional, user defined, scenario-based forecasting tool.

Again, neither Rush nor Hazama, taken singularly or in combination, teach or suggest the identification of historical expected non-routine data as previously described. Moreover, neither reference teaches or suggests the injection of the non-routine data into the third data set.

Claim 19 is believed to patentably distinguish over the Rush and Hazama references, taken singularly or in combination.

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Claims 20-23 are believed to be in condition for allowance as each is dependent from an allowable base claim.

Applicant believes that all information and requirements for the application have been provided to the USPTO. If there are matters that can be discussed by telephone to further the prosecution of the Application, Applicant invites the Examiner to call the undersigned attorney at the Examiner's convenience.

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The Commissioner is hereby authorized to charge any fees due with this Response to U.S. PTO Account No. 17-0055.

Respectfully submitted,

QUARLES & BRADY STREICH LANG LLP

January 17, 2006, By: _____



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